

RADIOFREQUENCY AND MICROWAVE (RF/MW) EXPOSURE STANDARDS: RUSSIA AND THE WEST IN MAJOR CONFLICT

by Don Maisch, EMFacts Consultancy © 2000

Russian and other Eastern European countries' exposure limits for radio frequency and microwave (RF/MW) radiation are far stricter than those in either the USA or Western Europe—a situation that has existed for over 30 years, mainly due to a fundamental difference between East and West as to exactly what exposure standards should provide protection against.

With the previous "Cold War" between East and West now well over and with the present push towards "globalisation", an attempt was made to resolve this difference at the 2nd International Conference on Problems of Electromagnetic Safety of the Human Being, held in Moscow in late 1999. This conference was sponsored by the Russian National Committee on Non-Ionising Radiation Protection (RNCNIRP) and many other Russian scientific organisations, in conjunction with the World Health Organization (WHO), the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and the US Air Force.

Despite extensive discussions during this conference, the attempt to "harmonise" RF/MW standards was unsuccessful, with little chance of a compromise in the near future. As mentioned by Professor Yuri Grigoriev, chairman of the RNCNIRP and a senior research scientist in Moscow: "So far we have entirely different approaches to 'harmonisation'. Western standard-setting organisations have emphasised protection from RF/MW thermal effects," Grigoriev said, "while Russia's more restrictive standard also reflects a concern over non-thermal effects and subjective symptoms."

Grigoriev emphasised the need to take into account possible cumulative effects from repeated exposure to relatively low levels of radiation as well as the potential bio-effects of specific modulated patterns. "If we bring our viewpoints together, we will have a shorter way to harmonise," he said.

Way back, during the Second World War, concerns began to be raised by military personnel that there may be health hazards from working with radar equipment. Servicemen standing in front of the radar antenna soon discovered it was a great way to keep warm on a cold night, but rumours began to circulate that this could also cause temporary sterility. In the 1940s, various US military and government agencies investigated the possibilities of health hazards. They all found no evidence of hazards, but recommended avoiding prolonged exposure as a precautionary measure.

After the war, in the late 1940s, several studies came to light that indicated that there were possible hazards involved with the use of microwaves. In 1948, two US studies reported a possible link with cataracts and testicular degeneration in dogs. These studies were largely ignored, simply because the companies which had developed microwave technology for the military saw an opportunity for wide commercial use of microwaves, such as in diathermy equipment and, later, microwave ovens. As such, there was no interest in funding research that might put a damper on this expanding business opportunity. It must also be remembered that this was the start of the Cold War between the East and West, and military uses of radar and other new equipment were seen as paramount to the national interest.

However, in 1953, a study of workers at Hughes Aircraft Corporation found excessive amounts of internal bleeding, leukaemia, cataracts, headaches, brain tumours, heart conditions, etc. in those employees working with radar. This study resulted in the US military initiating the first investigation into the biological effects of microwaves, with the aim to develop "tolerance levels" for both single and repeated exposures. Since little research data existed at that time (that could be used in determining tolerance limits), it was decided that the known ability of microwaves to heat up tissue (thermal effects) would be the main criterion used in developing limits. This decision, based more on a lack of scientific data than anything else, quickly gained favour with both the military and industry, as it avoided the unknown issue of other possible non-thermal health effects not caused by tissue-heating.

The "thermal school of thought" quickly became the accepted norm with Western standard-setting organisations and, as a result, the vast majority of research in the West was directed at short-term, high-level exposures, with the aim of gaining a better understanding of thermal effects and refining exposure standards to give adequate protection against body heating. Research directed towards health effects other than thermal was not favoured, and any findings (especially epidemiological) that indicated that low-level biological effects may exist were criticised and not followed up. It was simply bad for business!

This situation was well described by Dr Rochelle Medici, a researcher on animal behaviour, who said: "It is though scientists had retreated from doing challenging, frontier studies because such work engendered too much controversy or elicited too much criticism. We are left with 'safe' but meaningless experiments. The results of such experiments are a foregone conclusion."

Now, almost 50 years after the first enquiry into setting an exposure standard in the USA, the arbitrary decision to consider

Russian and other Eastern European countries' exposure limits for radiofrequency and microwave radiation are far stricter than those in the West.

An attempt to 'harmonise' safety standards has led to some interesting disclosures.

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thermal effects only has become a paradigm in the West.

Today, the ICNIRP exposure guidelines (thermal only) are being promoted as "the best that science has to offer" for an "international" standard, and many countries are now being urged to incorporate them as their national standard.

In Russia, however, a vastly different political, economic and social situation resulted paradoxically in their scientists being given far more democratic and academic freedom (and funding) than their Western counterparts in choosing the focus of their research efforts, without interference from vested interests. This has resulted in a Russian RF/MW exposure standard with a different viewpoint on what "protection" should mean in regards to ensuring people's health.

While thermal effects are accepted by both Western and Russian scientists, it was only the Russians who expanded their research to include extensive studies with human workers who were exposed to non-thermal electromagnetic fields. The reasons why Eastern scientists had more freedom in this regard are as follows:

- The socialist philosophy about protecting "the worker".
- The military was exempt from the public/occupational standards and could go about its business unfettered by these limits. As such, Russian (USSR) research into developing a non-thermal standard that considered low-level, prolonged exposures was not seen as a possible threat to the military's developing and deploying new technology, the way it was in the USA, for instance. An example of this was the suppression of the US Environmental Protection Agency's (EPA) 1990 report, "Evaluation of the Potential Carcinogenicity of Electromagnetic Fields", which was a review of the scientific literature up to that date. A US Air

Force paper on the EPA report stated: "If published, the [EPA] report will contribute to public anxiety and have serious impacts on capabilities and costs of air force programs."

• The absence of large, capitalist, private corporations which were investing in microwave technology purely for future corporate profit, and would view research into low-level hazards as itself a risk for "the bottom line". An example of this was in

Australia, where the possible health risks from mobile phone use were considered serious enough to mention in the Telstra 2 share offer document. The document says there have been allegations but no proof, and warns "there is a risk that a perceived or actual risk could lead to litigation against Telstra".

Now that East and West are talking about the standard-setting process, it is only rational that the large body of Russian medical research into non-thermal biological effects should now be included in standard-setting. Unfortunately,

however, it appears that the current attitude of ICNIRP is that the process of harmonisation means total acceptance of the existing ICNIRP guidelines (thermal effects only) without alteration.

This was very much the case in the 1999 Australian Standards TE/7 Committee: Human Exposure to Electromagnetic Fields, where an alliance of government/industry/military representatives would consider no changes to ICNIRP guidelines, despite concrete evidence being submitted that these guidelines were incorrect and biased in their interpretation of the Western scientific literature.

Now that the large body of Russian literature is becoming available to the West—literature which convincingly shows that ICNIRP voluntary standards do not provide adequate protection for workers and the public—how will our standard-setting bodies handle that?

If it turns out that ICNIRP still insists that only high-level thermal effects can be considered in standard-setting, then the question must be raised: Exactly for whom does ICNIRP provide protection?

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About the Author:

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HACKERS, MEDIA HYPE AND DISINFORMATION

by Wayne Madsen © 2000

For what it is worth, I am a 20-year veteran of the computer security community. I have served in the Navy, National Security Agency, State Department, Computer Sciences Corporation and RCA, and have consulted on computer security with the National Institute of Standards and Technology, international banks, telecom companies and even firms that manufacture candy.

While working for the FBI and Naval Investigative Service, I put one US Navy official in federal prison for espionage and other crimes, and I was involved in US counter-terrorism work in Greece and The Philippines. I think I know how the "spook" community operates and, more importantly, how it thinks.

The hype associated with the recent Internet flooding is outrageous and serves the agendas of the military and intelligence communities regarding new vistas for bloated Pentagon and espionage budgets.

On 17 February, National Public Radio's Diane Rehm Show had a roundtable discussion featuring James Adams, a former London *Sunday Times* reporter in Washington who is now a drum-beater for information warfare, and Jeffrey Hunker, the former head of the White House Critical Infrastructure Assurance Office. Adams suggested that, for critical infrastructure protection, certain civil liberties must be forfeited. He also stated that Internet transactions should not be afforded the same degree of privacy as the US mail.

Hunker was uncomfortable that some people think that scare-mongering has been at the centre of the recent packet-flooding of the Internet. Adams supported the CIA's creation of IN-Q-IT, a CIA "Trojan Horse" in Silicon Valley.

According to Adams, Science Applications International Corporation (SAIC), a virtual CIA proprietary firm, is funding, through IN-Q-IT, a program called Net Eraser. None of the participants in the Rehm Show was willing to talk about Net Eraser, and some seemed very nervous about discussing it in detail.

This radio program is highly indicative of the current hype surrounding the Distributed Denial of Service (DDOS) attacks on dot-com sites on the Internet. Even the use of the acronym DDOS is amazing. Here they are, 20-something dot-com executives (who probably never thought about computer security except for watching re-runs of *Hackers* and *Sneakers*) using Pentagon-originated terms like "Distributed Denial of Service" attacks. Why? Who told them to use those terms?

Then President Bill Clinton manages to spare 90 minutes to attend an Internet security summit on 15 February. Northern Ireland's peace agreement is falling apart, the Israel-Palestine agreement is unravelling, and Russia's new President is putting ex-KGB agents in his government, but Clinton has enough time to talk with a group of e-commerce barons, computer security geeks and even one hacker. The whole thing appeared to be staged and scheduled way in advance.

The whole so-called Internet "hack" smells of a perception management campaign by the intelligence community. Perhaps the system-flooding was coordinated by one group; however, those types of attacks probably occur on a daily basis without being reported by the world's media. It is important to note that

one of the key components of information warfare, according to the Pentagon's own seminal documents, is "perception management"—psychological operations to whip up public support for a policy or program.

The early Defense Science Board reports on Critical Infrastructure Protection actually call for a campaign to change the public's attitude about information system and network security.

The Pentagon is a master at deception campaigns aimed at the news media. They constantly broadcast disinformation to television and radio audiences in Haiti, Serbia, Colombia, Mexico and elsewhere. They are now extending this to cyberspace. Critical infrastructure protection is a masterful ruse aimed at creating the myth of impending cyber-peril.

The major domo is a weird chap named Richard Clarke, a Dr Strangelove type of character who is Clinton's counter-terrorism czar. He always talks about defensive cyber-warfare, but clams up when it comes to offensive US cyber-operations. That is classified information.

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For the past few years, US Government hackers have penetrated networks at the European Parliament and Australian Stock Exchange, and banks in Athens, Nicosia, Moscow, Johannesburg, Beirut, Tel Aviv, Zürich and Vaduz. The US also engaged in network penetrations in Yugoslavia during the NATO war against that country.

Why doesn't NPR, CBS, ABC, NBC and the others focus on what the US is doing to disrupt the Internet? They are instead falling into a familiar Pentagon trap of deception and diversion.

[Source: Wayne Madsen, 17 February 2000, website <http://cryptome.org/madsen-hmhd.htm>]

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AN ACTIVISTS DICTIONARY FOR TRANSLATING WTO-SPEAK (Orwellian to English)

by Jim Puckett © 1999

Agreement on Government Procurement (AGP) – An agreement that prohibits taxpayers from specifying how they want their tax money to be spent (i.e., on sustainable, equitable products).

Agreement on Sanitary and Phytosanitary Standards (SPS) – An international treaty that sounds hopelessly esoteric, but only happens to govern the integrity of all of the food that we eat and the risk from all of the diseases we might contract! Within it there lies numerous prohibitions against trade restraints, including a concerted undermining of the Precautionary Principle, thus allowing chemical pollution and diseases to enter our food and agriculture products.

Dispute Resolution – Under the World Trade Organization, any country can challenge a national law by running to the WTO dispute panel. This panel usually consists of three trade lawyers who deliberate in secret without participation from stakeholder groups unless requested. The decision of the three is binding and can overturn laws decided democratically by many millions of citizens.

Fair Trade – A term for alternative trading rules which might make distinctions that favour responsible and sustainable trade over that which is not.

Fast Track – Globalisation without representation. A means by which the US Government can vastly limit debate, congressional hearings and the possibility of amendments on international trade agreements and allow Congress only a thumbs up or down on the entire package.

Free Trade – Lawless trade.

GATT – The General Agreement on Tariffs and Trade, the tumour that on 1 January 1995 metastasised into the cancer that is the WTO.

Globalisation – A global economic model where unbridled capitalism, free trade and the rights of transnational corporations are given value over democracy, sovereignty, human rights and sustainability.

Harmonisation – An euphonious word for one set of rules. In practice, it is another word for "downward harmonisation", as the deck is stacked against any dreams of upward harmonisation due to corporate dominance within the rulemaking institutions, the consensus nature of international law and the unwillingness of developed countries to assist developing countries in leapfrogging over dirty development.

Multilateral Environmental Agreements (MEAs) – These are international treaties that free-traders feel the WTO should be able to trump, even though they have equal standing in international law. Now there are efforts underway to insert "supremacy clauses" into new MEAs (e.g., POPs treaty) to ensure that WTO has precedence over the MEA. Yet other free-traders want to set a limit that only via MEAs can environmental standards and rules be set—not allowing local, national or regional agreements. Both of these ideas spell disaster.

Most Favoured Nation Treatment – All countries must be treated equally, no matter how much they destroy the global environment, abuse workers or human rights, and no matter how little economic and political clout they might have to resist unfair investment or trade, or compete with larger countries (see Non-Discrimination).

Multilateral Agreement on Investment (MAI) – A liberalisation agreement dealing with investment rather than goods and services. It would grant rights to capitalists, which will dramatically diminish the ability of governments to decide the types of foreign investment allowed in their countries and the terms of entry and operation. This agreement proposed by the Organisation of Economic Cooperation and Development (OECD)—the club of 29 most wealthy countries—was put on hold by an outcry organised by a globalised activist movement. NAFTA already includes many investment provisions that have been proposed under the MAI.

NAFTA – North American Free Trade Agreement, which established WTO and MAI like provisions within a trade agreement for Canada, Mexico and the United States.

National Treatment – All foreign business must be treated just like homegrown business, regardless of environmental, labour or social practices of the importing country, and regardless of the need to protect a local economy from foreign investments, imports or trade in problematic substances such as a toxic waste or cigarettes.

Non-Discrimination – A term that in itself is used with great discrimination to allude only to discrimination against a country's right to trade, and not, for example, its right to protect its environment or the global commons. Indeed, the WTO seems to take pride in the fact that it cannot distinguish between sustainable, responsible trade and non-sustainable, irresponsible trade—clearly a lack of a discriminating mind. This term is used as an excuse to lower environmental and social standards to lowest common denominator levels.

Production and Process Measures (PPMs) – How things are made, farmed, caught or processed (e.g., with pollution or not, with child labour or not), deemed irrelevant by WTO rules.

Proportionality – The idea that an environmental or social measure taken by a government must not impact trade to an extent that is not in proportion to the environmental problem involved. In other words, environmental or social issues can never be considered more important than trade.

Protectionism – A pejorative term for "protection" (the true noun form of "protect"), it implies that economic, social and environmental protections are motivated by selfish interests.

Quantitative Restrictions – Bans or limits on trade in substances or products. The WTO disallows "quantitative restrictions", even when the ban or limitation protects the environment or public health.

Technical Barriers to Trade (TBT) – Let's get technical! What they are really talking about is laws—your laws, my laws, our laws. Also an agreement (TBT Agreement) under the WTO that seeks to eliminate TBTs.

Trade Barriers – Anything that can limit profits made via trade or investment.

Trade Distortion – Used to describe the effects of "trade barriers". Not used to describe the effects of allowing "distortions" in true economics via externalising true costs to communities and the environment.

Trade Liberalisation – Freedom to allow transnational corporations and governments to externalise environmental and social costs to the planet and its people (see Free Trade).

Trade Wars – According to the WTO, these are what happens when countries retaliate against tariffs. They are *not* what happens when the WTO allows countries to sanction one another if they fail to overturn democratic decision-making (as is currently taking place between Europe and the US over the beef hormone issue).

Trade-Related Intellectual Property Rights (TRIPS) – The subject of a WTO agreement which requires that the whole world adopt US-style patent laws. Can be used to strip traditional peoples' ownership of rights to their own seeds, recipes, methods and genetic material. Can be used to deny developing countries appropriate technologies (e.g., waste minimisation technologies). The Agreement on TRIPs proves that the WTO is not primarily about "free trade", as the Agreement actually legislates *against* free trade. Rather, the WTO is about giving transnational corporations what they want.

World Trade Organization (WTO) – An umbrella organisation designed to limit governmental regulation of trade and investment to one set of rules. But because these rules have been created primarily by the largest of our corporations, these rules have been established primarily for these corporations. They have become a Corporate Global Constitution and "Bill of Rights" that denies rights to people and the environment.

[Source: Written by Jim Puckett and extracted from his October 1999 publication, "When Trade is Toxic: The WTO Threat to Public and Planetary Health", a project of Asia Pacific Environmental Exchange (APEX) (tel +1 206 720 6426, e-mail apex@seanet.com) and Basel Action Network (BAN) (e-mail info@ban.org, website www.ban.org).]